



**SUPERFUND PRELIMINARY SITE CLOSE OUT REPORT
NUTTING COMPANY SITE
FARIBAULT, MINNESOTA**

I. SUMMARY OF SITE CONDITIONS

Background

The Nutting Company is located at 1221 Division Street in the town of Faribault, Minnesota. Between 1891 and 1984 the company manufactured and distributed casters, wheels, handtrucks and towline trucks at its Faribault facility. In 1984, the manufacturing operations were moved to Watertown, South Dakota.

Prior to 1970, foundry wastes were disposed of in an abandoned gravel pit on-site. Beginning in 1959, Nutting used a seepage pit in the northwest corner of the gravel pit for disposal of waste and sludges. This operation continued until April 1979, when the Minnesota Pollution Control Agency (MPCA) issued a Notice of Noncompliance to the company regarding its disposal practices. In 1980, Nutting excavated all contaminated soils associated with the disposal pit. The excavated area was backfilled and paved.

From 1979 to 1983, Nutting installed six monitoring wells on its property, including one upgradient and one downgradient from the former disposal pit. Analysis of ground water samples showed that ground water beneath the pit was contaminated with cadmium, lead, cyanide, methylene chloride, trichloroethylene (TCE), and xylene. Of these, TCE was also detected in wells upgradient and at the boundary of the Nutting property.

The city of Faribault operates five municipal wells which are located approximately one-half mile downgradient of the Nutting facility. In October and November 1982, well water analysis showed that all five of Faribault's municipal wells were contaminated with TCE and 1,2-dichloroethylene, a degradation product of TCE. On April 26, 1984, MPCA issued a Response Order by Consent (Consent Order) to the Nutting Company to conduct a Remedial Investigation (RI) to determine the extent of contamination at the site and the effect of contamination on the city's municipal wells.

The Nutting site was placed on the United States Environmental Protection Agency's (U.S. EPA) National Priorities List (NPL) of abandoned or uncontrolled hazardous waste sites, eligible for investigation and cleanup under Superfund, on September 8, 1983.

Remedial Planning and Construction Activities

RI water quality monitoring data indicated that TCE, up to 570 ug/L, and 1,2-dichloroethylene was present in shallow ground water at the Nutting site and in wells both up and downgradient of the site. Ground water at the site is located in glacial outwash deposits consisting primarily of sand and gravel. This glacial drift is underlain by the St. Peter sandstone formation, and together they comprise the upper aquifer. The base of the St. Peter is a clayey sand which was found to retard but not prevent vertical migration of ground water. The Prairie du Chien formation (Oneota and Shakopee Dolomites) underlies the St. Peter/Drift aquifer. An upward vertical gradient between the two aquifers was confirmed during investigations, indicating that the units are at least slightly hydraulically connected. TCE was detected in one on-site well within the Prairie du Chien formation.

Water level measurements in St. Peter/Drift wells and Prairie du Chien wells both indicate that the general ground water flow direction at the site is to the north-northeast, toward the Faribault wells.

Several soil borings were made on the southern portion of the Nutting site. The purpose of these borings was to determine if wastes other than foundry waste were disposed of in the old gravel pit area, and therefore represents a source of contaminants detected in the upgradient well.

Boring samples were analyzed by head space gas chromatography on-site. In general, contamination detected was limited to surface or near surface soils. This contamination was attributed to spillage occurring during drum handling in those area.

A Consent Order was issued to the Nutting Company on September 22, 1987, by the MPCA for completion of the Remedial Action (RA) at the site. A Response Action Plan (RAP) was attached as an appendix to the Consent Order and selected the following remedy:

1. Establishment of a shallow ground water pump out system to remove contaminants from ground water beneath the Nutting site.
2. Establishment of a long-term monitoring well network designed to evaluate the effectiveness of the pump out system and to detect changes in St. Peter and Prairie du Chien water quality.

The selected remedy eliminates the principal threats posed by the conditions at the site by reducing the potential for human exposure to contaminants detected in ground water.

The RA was completed in accordance with the Consent Order and included:

1. Installation of two shallow ground water pump out wells just north of the Nutting property. One well is screened in the glacial drift alluvium and the other in the St. Peter sandstone formation. Extracted ground water is discharged to the sanitary sewer and to Crocker's Creek under a MPCA NPDES permit. The system began operation on November 25, 1987, and response action levels for ground water have not been achieved. The response level for TCE was set at 50 ug/L in the Consent Order.
2. Establishment of a long-term ground water monitoring well network consisting of the two pump out wells and 13 monitoring wells installed previously as part of site investigation activities. The wells were initially sampled on a quarterly basis, and analytical results supplied to the MPCA have been used to modify the monitoring network accordingly.

A pre-final inspection was not conducted following completion of RA construction.

II. DEMONSTRATION OF QA/QC FROM CLEANUP ACTIVITIES

The sample analytical program was conducted in accordance with U.S. EPA Quality Assurance/Quality Control (QA/QC) guidelines. The samples were analyzed by Pace Laboratories using U.S. EPA method 601 for TCE, 1,1-dichloroethylene, and 1,2-dichloroethylene.

The Quality Assurance Program consisted of the Pace Laboratories' normal quality control procedures plus the analysis of spike, duplicate and outside reference samples. The QA/QC procedures and protocol are described in the RAP.

The QA/QC program utilized throughout the response action was sufficiently rigorous and was adequately complied with to enable the MPCA to determine that all analytical results reported were accurate to the degree needed to assure satisfactory execution of the remedial action.

III. MONITORING RESULTS


Currently, 10 wells (including the two pump out wells), the catch basin, and the outfall area at the discharge to Crocker's Creek are sampled semi-annually. The groundwater samples are analyzed for TCE, 1,1-dichloroethylene, and 1,2-dichloroethylene. Analysis for Oil and Grease, pH, and Total Organic Carbon (TOC) is also conducted on samples from the catch basin. The results

are summarized and submitted to the MPCA. Groundwater will be extracted until the response level for TCE is achieved.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

The remedial action set forth in the RAP has been completed. Nutting is responsible for the operation and maintenance of the ground water pump out well system and monitoring well sampling and analysis under provisions of the Consent Order with MPCA.

Remaining activities to be conducted at the Nutting site include Operation and Maintenance (O & M) and five-year review. A five-year review pursuant to OSWER Directive 9355.7-02 ("Structure and Components of Five-Year Reviews") will be completed by March 31, 1993. Based on the five-year review, U.S. EPA, in consultation with MPCA, will determine whether the site remains protective of human health and the environment.



William E. Munro, Acting Director
Waste Management Division

9/24/92

Date